

Helmholtz-Zentrum Dresden-Rossendorf e.V.



With cutting-edge research in the fields of ENERGY, HEALTH and MATTER, around 1,500 employees from more than 70 nations at Helmholtz-Zentrum Dresden-Rossendorf (HZDR) are committed to mastering the great challenges facing society today. The Center for Advanced Systems Understanding (CASUS) is a German-Polish research center for data-intensive digital systems research. The Department of Scientific Computing Core is looking for a

PhD Student (f/m/d) for HPC/GPU Computing

City: Görlitz; Starting date (earliest): 01/09/26; Duration: 3 years; Remuneration: TVöD Bund; Reference number: 2026/52; Closing date: 30/06/26

Tasks

- Research in GPU programming and (highly) parallel programming for HPC and Scientific Computing
- Active contribution to Open Source Scientific Community codes
- Working with application field scientists from various fields and different levels of IT background and their ambitious HPC codes
- Own research focus and Ph.D. topic related to GPU programming such as
 - Parallel programming models or programming abstraction
 - Parallel algorithms
 - Performance/scalability analysis and optimization or
 - Exploration of AI assisted programming for parallel processing or GPUs
- Publishing results in academic and peer-reviewed journals with own research focus topics and in collaboration with application field scientists; presenting results at scientific meetings

Requirements

- Completed university studies (Master/Diploma) in one of the fields of Computer Science, Physics, Chemistry, Mathematics, or a related field with a strong computational science focus
- Experience in numerical algorithms is a plus
- Practical experience and proven contributions (scientific publications or software development) are a plus
- Experience with libraries for scientific computing, parallel computing and GPU computing are a plus
- Strong motivation to work in a collaborative and international environment
- Excellent programming skills in at least one of C/C++, Fortran, or Julia; more are a plus
- Experience in parallel programming with at least one of CUDA/HIP, Alpaka or Kokkos, MPI, OpenMP, HPX, or similar
- Experience with development tools and build systems, git and collaborative

development, debugging and profiling tools

- Experience with Linux and on the command line; working in HPC environments
- Excellent communication skills in English and in a professional context; German language skills are a plus

What we offer

- A vibrant research community in an open, diverse and international work environment
- Scientific excellence and extensive professional networking opportunities
- A structured PhD program with a comprehensive range of continuing education and networking opportunities - more information about the PhD program at the HZDR can be found [here](#)
- Salary and social benefits in accordance with the collective agreement for the public sector (TVöD-Bund) including 30 days of paid holiday leave, company pension scheme (VBL)
- We support a good work-life balance with the possibility of part-time employment, mobile working and flexible working hours
- Numerous company health management offerings
- Employee discounts with well-known providers via the platform Corporate Benefits
- An employer subsidy for the "Deutschland-Ticket Jobticket"

Application

We look forward to receiving your application documents (including cover letter, CV, diplomas/transcripts, etc.), which you can submit via our online-application-system: <https://www.hzdr.de/db/Cms?pNid=490&pLang=en&pOid=77515>

More information at <https://stellenticket.de/203999/HTWB/>
Offer visible until 07/06/26

